

### **REMARKS**

Claims 1-20 are now in the application. No claims have been amended by this Response. No new matter has been added.

Claims 1, 2, 5, 8-12, and 18 have been rejected under 35 U.S.C. §102(b) as being anticipated by GB 1 389 238 to Ciba-Geigy (hereinafter “GB ‘238”). Claims 13 and 14 have been rejected under 35 U.S.C. §102(b) as being anticipated by GB ‘238, or, in the alternative, over under 35 U.S.C. §103(a) as being unpatentable over GB ‘238.

Independent claim 1 recites, among other features, that the condensation of at least one crosslinkable starting material which is liquid or dissolved in a liquid phase with at least one aldehyde is carried out in a spray reactor. At least this feature cannot reasonably be considered to be suggested in GB ‘238.

GB ‘238 suggests a process for the encapsulation of finely-divided materials, which is referred to at page 1, col. 39, as a “spray condensation” process in which a polymeric product is first formed by polycondensation and subsequently spray dried. Specifically, GB ‘238 suggests, at page 1, col. 40 to col. 71, a condensation process using modified aminoplast pre-condensates as shell wall forming agents. These pre-condensates are obtained according to known procedures, see page 1, col. 72 to 95.

According to the “Manufacturing Instructions for Reactive Surface-Active Agents” in GB ‘238 at page 6, col. 75 to page 7, col. 81, a multi-step procedure for producing amino resin pre-condensates has to be used, specifically:

- Urea, formaldehyde, butanol, and ammonia are stirred in a flask at 96 °C for 2 hours
- The mixture (product) is cooled down to 50 °C
- Phosphorous acid is added to the mixture
- The mixture is heated to 80 °C while water and butanol are distilled off
- The mixture is neutralized by adding triethanolamine

- The product is dried in vacuum

However, GB '238 fails to suggest that a polycondensation involving an aldehyde takes place in a spray reactor. Instead, GB '238 suggests that the condensation of formaldehyde and aminoplast forming agents, such as 1, 3, 5 –aminotriazines, takes place under usual conditions in a flask with solvent and a stirrer for making these pre-condensates, namely methylolated urea and the etherified methylolated ureas. This is far remote from the above-quoted features of claim 1.

GB '238 further suggests, at page 2, col. 65-80, that the precondensates, which comprise surface-active agents, are reacted with compounds comprising radicals containing a) a monohydroxy group, b1) an amine containing hydroxyl group, b2) polyethylene glycol, b3) two hydroxyl groups and a radical of the structure  $\text{Me-O}_3\text{S-}$ , and b4) aliphatic hydroxycarboxylic acids. GB '238 fails to suggest that the surface-active agents are reacted with an aldehyde.

Claims 3, 15, and 19 have been rejected under 35 U.S.C. §103(a) as being unpatentable over GB '238 in view of US 5,807,584 to Thiesse et al.

The Office Action relies on Thiesse for suggesting features corresponding to a nozzle having a diameter of from 1  $\mu\text{m}$  to 10 mm. Thiesse is not applied in a manner to cure the deficiencies of GB '238 discussed above.

Claims 4, 16, and 20 have been rejected under 35 U.S.C. §103(a) as being unpatentable over GB '238 in view of US 5,269,980 to Levendis et al. Claims 6 and 7 have been rejected under 35 U.S.C. §103(a) as being unpatentable over GB '238. Claim 17 has been rejected under 35 U.S.C. §103(a) as being unpatentable over GB '238 in view of Thiesse and in further view of Levendis.

Levendis suggests a process for manufacturing powdery polymer particles using spray polymerization. As set forth at col. 2, lines 51 to 68, the process comprises the following five steps:

1. Preparing a liquid feed solution (containing either (i) monomers (optionally pre-polymerized) plus polymerization catalyst or (ii) polymers, dissolved in solvent,
2. Feeding this feed solution to an aerosol generator in order to prepare droplets,
3. Spraying the droplets into a heated reactor,
4. Keeping the droplets in that reactor until the solvent is evaporated
5. Withdrawing the powdery polymer particles.

Levendis suggests, at col. 2, lines 1 to 24 the preparation of the feed solutions of step 1, above. The solutions (ii) may contain, inter alia, formaldehyde resins. These resins are the reaction products of formaldehyde, not unreacted formaldehyde. As set forth in Figure 3a, the formaldehyde resins are sprayed by means of the aerosol generator and then dried in the reactor. However, no condensation reaction of aldehyde in a spray reactor takes place.

Levendis further suggests a feed (i) of common, vinyl-type monomers like styrene and acrylic acid. These monomers are commonly polymerized by chain and step polymerization. Levendis suggests, at col. 3, line 65 to col. 4 line 5, that the droplets are dried in a reactor. Depending on the conditions, it may be the case that further polymerization takes place in this step; however, the polymerization reaction suggested in Levendis is not a reaction between an aldehyde and a crosslinkable starting material, as recited in independent claim 1.

Thus, Levendis suggests drying of formaldehyd resins in a spray reactor. Levendis fails to suggest features that can reasonably be considered to correspond to the above-quoted features of claim 1.

Moreover, Levendis teaches away from the claimed subject matter because Levendis suggests, at col. 3 line 65 to col. 4 line 5, using prepolymers and not to conduct the entire polymerization in a spray reactor.

Claims 2-20 are in condition for allowance for at least their respective dependence on an allowable claim 1, as well as for the separately patentable subject matter that each of these claims recites.

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Applicants concurrently herewith submit the requisite fee for a Petition for a one-month Extension of Time. Applicants believe no additional fee is due with this response. However, if any such additional fee is due, please charge our Deposit Account No. 22-0185, under Order No. 12810-00129-US1 from which the undersigned is authorized to draw.

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Respectfully submitted,

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